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Keep Your Eyes on the Prize

The prize that I am referring to is keeping as many infants alive and healthy as possible, in both the Northern and Southern Hemispheres. Safe sleep for and breast-feeding of small infants are critical to attaining this prize. However, discussions about their interrelationship create more heat than light. The paper by Santos et al, in this issue of *The Journal*, provides some light.¹ I hope that the heat from the controversy it will provoke could be transformed into the light of additional well-done analyses.

Santos et al are from the southern Brazilian city of Pelotas, a “specific area of a middle-income country.” They show an association between breast-feeding among bed-sharing infants at 3 months of age and continued breast-feeding at 12 months. Infants breast-feeding at 3 months are also stratified into groups that breast-fed exclusively, predominantly, or partially. Among 8 factors significantly associated with breast-feeding at 12 months, their Table I shows that 59% of babies who bed-shared and breast-fed at 3 months were still breast-feeding to some degree. This compared favorably with infants who were not bed-sharing, of whom only 44% still breast-fed at 12 months. The 95% confidence intervals for the adjusted “prevalence ratios” for breast-feeding at 12 months among those bedsharing at 3 months were 0.69 to 0.81 ($P < .001$), with increasing effect among infants breast-feeding more exclusively.

To grasp the full significance of this and similar published reports, we need a more complete understanding of the association between breast-feeding and bed-sharing. For the findings of Santos et al to help us best understand the association, we must turn up the heat and provide some light, with a few questions and comments. The questions and comments posed are both academic (about methods and rhetoric) and seriously practical (about generalizability and safety).

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Possible increased risk for infant death during sleep drives much of the controversy about infant bed-sharing. Epidemiologic studies of deaths diagnosed as sudden infant death syndrome, and thus unexplained, have suggested an association.² However, careful readers should be aware that Refer-

ences 9 and 11 through 13 listed by Santos et al were studies that included many or all deaths diagnosed as accidental suffocation (ie, deaths believed by the official certifying the cause to have been explained by the surrounding circumstances). Therefore, both unexplained deaths (sudden infant death syndrome) and deaths at least partially explained by the sleep microenvironment are at issue if our understanding of bed-sharing’s associations is to be enlightened.

For this report by Santos et al, “bed-sharing was defined as habitually sharing a bed with the child’s mother.” Other descriptors are limited. Embellishing the definition by recording an estimate of the number of nights per week could have suggested a bed-sharing “dose effect.” Even more importantly, reporting whether the bed was shared habitually all night or just for breast-feeding would have enlightened us about the relevance of their results to published findings showing increased risk for death with all-night bed-sharing.³

Another point of concern that I could not resolve was the number of deaths among their cohort. It is not completely clear, but their results suggest that “a total of 82 deaths” occurred among the original cohort of 4231 (19.4 per 1000 infants). Is this number more or less than expected, and how many, if any, who died suddenly and unexpectedly were bed-sharing?

There may be other intriguing findings to be found among their data. For example, it is possible that they can address a limitation recognized in the Discussion, namely the unanswered question of whether mothers committed to bed-sharing also are very committed to breast-feeding. Their subjects were interviewed in the perinatal period as well as at 3 and 12 months postpartum. If the mothers were asked about definite perinatal plans to breast-feed at the first interview, this alone might have been a strong predictor of continuing to breast-feed, as it was in New Zealand.⁴ If commitment to bed-sharing was also strong among mothers firmly planning to breast-feed, then an independent effect of subsequent bed-sharing on sustained breast-feeding would be hard to argue for.

In this regard, one should be cautious about verbs such as “prevent” when describing bed-sharing’s effect on weaning, because although propensities to bed-share and breast-feed may be linked, the direction of the causal association, if any, is not clear. Components of an argument for bed-sharing “causing” more breast-feeding are limited in scope to the fairly strong associations of any bed-sharing and breast-feeding and some consistency across published studies. Lacking are a clear “dose effect,” a biological mechanism, an understanding of the temporal sequence (more breast-feeding follows more bed-sharing), or an intervention study that increases bedsharing and is followed by sustained breast-feeding.⁵ Again, Santos et al may be able to shed more light on these deficiencies by analyzing whether multiparous mothers who did not breast-feed their earlier infants were more likely to do so if they bed-shared with the study infant.

With respect to mechanism, in considering causality, we should not be misled into concluding that more trips to the breast by bed-sharing infants on a single night in a sleep laboratory necessarily translates into maintaining breast-feeding as the primary source of nutrition beyond 6 to 12 months.⁶ This has not been shown, or even suggested, by epidemiological studies. Indeed, a more complete reading of published studies using polysomnographic recordings of habitually bed-sharing infants during a single night or nap shows that they experience more thermal stress than infants in a crib in the parents’ room.⁷ Furthermore, infants who usually bed-share may have fewer spontaneous arousals and other worrisome sleep patterns during daytime napping, when they are asleep alone and the mother is not sleeping with them.⁸

Finally, how should parents sleeping in beds typically used by adults like me use this information? What are beds shared with infants most like in Pelotas? Are they like mats on the floor, or raised mattresses with pillows and comforters? Does the infant have his or her own space in the shared bed defined, for example, by a hammock? Until mechanical factors imparting softness to bedding or preventing entrapment have been considered for babies from Pelotas, one should use extreme caution in extrapolating these results to the United States, particularly if beds shared by babies in Pelotas are much safer than adult beds here.

The findings of Santos et al seem reliable but must not be overstated. Being close to a baby by having a safe but separate sleep surface in the parents’ room reduces the infant’s risk for sudden death and is associated with increased duration of breast-feeding.⁴ That dual benefit seems the surer way to the prize. ■

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